



BLANK CHILDREN'S  
HOSPITAL

IOWA HEALTH SYSTEM

Managing Diabetes

# At Home

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## It's Time to Go Back to School

By Sherry Trunnel, RN, CDE

Keeping your child safe at school is a goal for everyone. We also want to make sure that the child with diabetes is not treated differently from other children. Educating school personnel at the beginning of each school year is the responsibility of the parents.

### What the School Needs

- Most schools require a school health plan and will provide this for the parent and physician's office to complete. The health plan will include: emergency contact information, times to test blood sugars and ketones, any medication to be given at school, when to call parents with blood sugar results, and meal and snack information. It should also state if the child needs supervision or assistance with any of their care.
- Parents may also request a 504 plan. A 504 plan requires the school to work with the family in developing an individualized plan that ensures your child's diabetes care is provided safely and without discrimination. This is in addition to the health plan and is strongly recommended by our office.
- Parents must provide all diabetes supplies that the child will need at school. This may include a glucose meter and strips, insulin, ketone strips, a glucagon emergency kit, food for snacks and carbohydrates to treat low blood sugars.



### School Emergencies

Low blood sugars are the most likely emergency at school. All school personnel who will have any contact with your child (teachers, bus drivers, lunch and recess staff, etc.) need to be educated on how your child acts or complains of when they are low. They also need to know how to treat a low blood sugar. In addition, at least two to three adults at school should be trained in when and how to give glucagon.

Providing the school with a low blood sugar emergency kit is easy. It can be a box or plastic container filled with juice boxes or glucose tabs.

Simple instructions can be taped to the top. For example: if the child does not act ok or complains of not feeling ok, check blood sugar. If the blood sugar is less than 80, have them drink 1 juice box or eat 3 glucose tabs.

### High Blood Sugars

- When the blood sugar is over 200, extra water should be given.
- Ketones should be checked when the blood sugar is over 240.
- If ketones are positive, the school should immediately notify parents.

### Field Trips & Sports

- Children should be allowed to participate in all school activities.
- Education of school staff should include instructions for field trips and exercise.

Education is the first and most important step in keeping your child safe at school. Training the school staff and updating your child's health plan should occur at the beginning of each new grade year.

# Now and Later: Complications of Diabetes

*By Alyssa Krussow, PharmD Candidate, Drake University*

The effects of uncontrolled diabetes not only impact your child now, but also when he or she is an adult. You and your child may have experienced the immediate complications of diabetes: severely low blood sugar and severely high blood sugar. Low blood sugar can lead to loss of consciousness and seizure. High blood sugar leads to ketone production and ketoacidosis. These effects may be familiar to you, but do you and your child understand the effects long term high blood sugar can have on the body?

- Nerve damage is a complication of diabetes that is usually seen in adulthood. This may cause pain, tingling, or numbness in the hands and feet. Start good practices early. Ensure that your child's shoes fit properly and don't cause any irritation. Your child should check his or her feet daily for sores that he or she may not be able to feel.
- People with diabetes are unable to heal as well as those without diabetes. If your child has a cut or sore that is not healing, they should be seen by their physician.
- Diabetes is the most common cause of blindness in the United States. Your child should have yearly eye examinations. Well controlled diabetes and regular eye exams may prevent complications of the eyes.

- Uncontrolled diabetes can cause damage to the kidneys. A urine test is performed yearly to check the function of the kidneys. This test looks for microalbumin, a protein excreted by damaged kidneys.
- It is important that your child rotate the sites of insulin injections. Insulin causes scarring under the skin, and will cause bumps or dimples in the skin with repeated injections. Rotating the injection sites can prevent this.
- Your child should have his or her cholesterol checked regularly. Because diabetes increases the risk of heart disease, it's important to keep cholesterol in check.
- Being active and eating a balanced diet can also decrease the risk of heart disease. This is important for children and adults.
- Type 1 diabetes is an autoimmune disease. This increases the chances that your child will develop other autoimmune diseases. Your physician may elect to perform blood tests to check for other diseases that are common with diabetes, such as thyroid disease and celiac disease.

Starting good habits at a young age will make it easier for your child to continue these habits into adolescence and adulthood. It's important your child understands these complications and that good blood sugar control is the best form of prevention.

## What is a Hemoglobin A1c Anyway?

*By Stephen Wise, PharmD Candidate, Drake University*

Every time you go into the clinic for a follow-up on your diabetes care, your healthcare provider usually tells you what your hemoglobin A1c, or just A1c, is and then tells you if that is good, bad, or just okay. But what is that number and what does it mean for you?

Whenever you use a meter at home or at school, it tells you what your blood sugar is at that time. Depending on the time of day, it can be high, low, or right on target. When your A1c is checked at the doctor's office, however, it reflects an average of your blood sugar levels 24 hours a day for the past two or three months. This isn't just the averages of your levels that you take with your meter, but also when you are sleeping or between checking with your meter. It does this by looking at a part of your blood called red blood cells. Those red blood cells have a protein called hemoglobin, and the sugar in the blood will attach to the hemoglobin. So when your blood sugars are

high and stay high, more of your blood sugar attaches to those hemoglobin proteins and never lets go. And since red blood cells live for about three months in your body, a blood test can see how much of your blood sugar has attached to your hemoglobin. This test will show your provider how well your diabetes has been controlled. This is also why providers usually want an A1c every three months at your regular check-up.

An A1c is reported as a percent, for example 7%. The higher the number, the higher your blood sugars have been running over the past few months. For children, most providers would like your A1c goal to be 8% or less. For adolescents, the goal is 7.5% or less. The longer you can keep your A1c at your target, the fewer health problems you are likely to have later in life. Remember that the A1c is just one of the tools to help your healthcare provider determine the best insulin dose for you. Talk to your provider about what your A1c target should be and how you can get to that goal. Please note that the A1c target levels may change in the future.

# Mark Your Calendar for Appointments!

By Kejal Patel, PharmD Candidate, Drake University

Does it ever feel like you are running from one doctor's appointment to another? Or do you ever find it hard to believe it has already been three months since you last visited the endocrinologist? Well there is an important reason behind each of these appointments and it's essential that you go to these appointments.

## 1. Endocrinologist Every Three Months

Quarterly visits to the endocrinologist are essential for ensuring optimal blood glucose control and preventing complications. At each visit, your blood glucose readings and Hb1Ac are reviewed and an assessment is made whether a change in the insulin regimen is needed. Additionally, the practitioner checks to make sure you do not have any of the complications associated with diabetes such as foot ulcers or high blood pressure.

## 2. Annual Vision Exam

High blood glucose levels can affect your eyes. The vessels that carry blood to the eyes are very narrow. Glucose, however, is a large molecule. When the levels of glucose are high in the blood, the glucose molecules damage the vessels making it difficult for blood to flow to the eye. Annual eye exams allow for early detection of many eye conditions such as glaucoma and cataracts.

## 3. Dentist Every Six Months

Diabetes patients have excess blood glucose in the mouth which makes it easier for bacteria to grow and thrive. Unfortunately, this means diabetes patients have a higher likelihood of gum disease at a younger age. Visiting the dentist regularly can prevent gum disease from advancing to serious complications such as tooth loss.

## 4. Podiatrist Check-Up

Varying blood glucose levels, also, cause damage to nerves and reduce blood flow to the feet. It is important to check your feet every night before going to bed for any changes such as blisters, redness, or calluses. If you notice any abnormalities in the condition of your feet it is important to go see a podiatrist rather than to self treat because the problem may be more complicated than it appears on the surface.



As inconvenient as these appointments may seem, they are critical for keeping you healthy. Get on the phone and make your appointments today!

## Recipe: Berry Banana and Lemon Yogurt Cups

Provided by Mary Dutcher MS, RD, LD, CDE

Recipe makes 5 servings.

### Ingredients:

- 2 cups fresh or frozen unsweetened strawberries or raspberries
- 2 medium bananas (7 inches long) chunked into small pieces
- 2 – 6 oz. cartons of sugar free lemon yogurt
- 1 cup of fat free or light Cool Whip

### Instructions:

Combine yogurt with Cool Whip until smooth and well blended. Layer into 5 parfait glasses or small bowls:

Yogurt, bananas and strawberries, repeat layering, ending with yogurt. Top with a whole berry. Refrigerate or serve immediately.

### Servings:

Each cup provides 28 g carbohydrates and 140 calories.



## Managing Diabetes at Home

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## Electronic Medical Records

The Children's Health Center is now converting to electronic medical records. Jaci Green, RN, a Blank Children's Health Center nurse, is helping the clinic implement this conversion, and she answered these questions:

**Why is Blank Children's doing this?** Our parent company, Iowa Health System, is being proactive in converting our paper charts to electronic records to be ahead of the federal mandate that is coming in 2010. It will also allow for consistent patient care across the Iowa Health System organization.

**What are the benefits to me and the Blank Children's staff?** The benefits to staff are tremendous. It helps with continuity of care, easy access to records and records are available to staff at all times. It will help phone calls to be processed quicker and more efficiently.

**What should I expect when I phone or arrive at an appointment?**  
*For appointments:* You will begin to see that we are accessing the computers in your exam room to document your concerns instead of writing it on paper. If you come in for your appointment within the next month you may see a lot of different faces around the clinic. We will have plenty of extra support staff from our IT department in the clinic area assisting our staff as they are learning!  
*Phone calls:* You may hear in the phone receiver our reception desk personnel typing. They are typing your information into the computer and as soon as they hang up with you they will send it on to the nursing staff to return your call.



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